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Date: 11 / 9 / 2009

By: *Christine Kotran*
Christine Kotran

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: Heinz Berner and Gabriele Kerber

Patent No.: 7,612,103 - Issued: Nov. 3, 2009

Serial No.: 10/521,926 - Filed: July 22, 2005

Title: PLEUROMUTILIN DERIVATIVES AS ANTIMICROBIALS

Attorney File: KS4258US.RCE (#90711)

Certificate

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NOV 16 2009

of Correction

REQUEST FOR CERTIFICATE OF CORRECTION UNDER 37 C.F.R. 1.322

Sir:

A printing error has occurred in the above-referenced U.S. Patent No. 7,612,103 issued November 3, 2009. Specifically, on the cover page at item (30), Foreign Application Priority Data, please delete "PCT/EP03/08059" and insert -- PCT/EP03/03215--. A Certificate of Correction form PTO/SB/44 is enclosed along with a copy of the cover sheet with the correction marked thereon.

The following documents are also enclosed to support this correction:

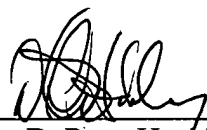
- A. Declaration and Power of Attorney for United States Patent Application - (note particularly page 2), which was filed at the USPTO on July 22, 2005 (note also postcard receipt marked A1), and

- B. Cover page of WO 2004/011431 published 5 February 2004 (This is the publication document for PCT/EP03/08059 from which the referenced patent application was filed at the USPTO under 35 U.S.C. 371 and 37 C.F.R. 1.495.).

As this is a printing error on the part of the USPTO, no fee is required. Prompt issuance of a Certificate of Correction is earnestly solicited.

Respectfully submitted,

By: _____



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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : 7,612,103

APPLICATION NO.: 10/521,926

ISSUE DATE : Nov. 3, 2009

INVENTOR(S) : Heinz Berner and Gabriele Kerber

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the cover sheet, first column at item (30) Foreign Application Priority Data, at the third item delete "PCT/EP03/08059" and insert -- PCT/EP03/03215 --.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

D. Peter Hochberg, Esq.
1940 East 6th Street - 6th Floor
Cleveland, OH 44114

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



US007612103B2

(12) **United States Patent**
Berner et al.

(10) **Patent No.: US 7,612,103 B2**
 (45) **Date of Patent: Nov. 3, 2009**

(54) **PLEUROMUTILIN DERIVATIVES AS
 ANTIMICROBIALS**

FOREIGN PATENT DOCUMENTS

(75) **Inventors:** Heinz Berner, Vienna (AT); Gabriele Kerber, Vienna (AT)

| | | |
|----|----------|--------|
| WO | 01/09095 | 2/2001 |
| WO | 02/12199 | 2/2002 |
| WO | 02/22580 | 3/2002 |

* cited by examiner

(73) **Assignee:** Nabriva Therapeutics AG, Vienna (AT)

Primary Examiner—Janet L. Andres

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 612 days.

Assistant Examiner—Raymond Covington

(74) *Attorney, Agent, or Firm*—D. Peter Hochberg; Sean F. Mellino; Daniel J. Smola

(21) **Appl. No.:** 10/521,926

(57) **ABSTRACT**

(22) **PCT Filed:** Jul. 23, 2003

Compounds of formula

(86) **PCT No.:** PCT/EP03/08059

§ 371 (c)(1),

(2), (4) **Date:** Jul. 22, 2005

(87) **PCT Pub. No.:** WO2004/011431

PCT Pub. Date: Feb. 5, 2004

(65) **Prior Publication Data**

US 2005/0250811 A1 Nov. 10, 2005

(30) **Foreign Application Priority Data**

| | | |
|---------------|------|----------------|
| Jul. 24, 2002 | (GB) | 0217149.4 |
| Jul. 25, 2002 | (GB) | 0217305.2 |
| Mar. 27, 2003 | (WO) | PCT/EP03/08059 |

(51) **Int. Cl.**

A61K 35/31 (2006.01)

A31K 35/27 (2006.01)

C07D 211/80 (2006.01)

Should read:

(52) **U.S. Cl.** 514/355; 514/423; 514/476; 546/285

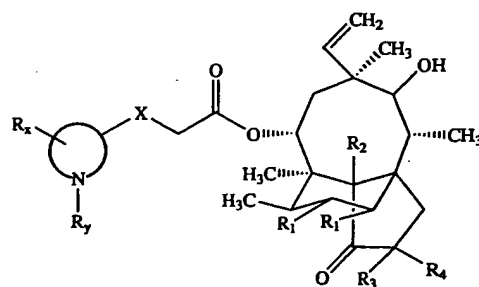
(58) **Field of Classification Search** 546/285; 514/355, 423, 476

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

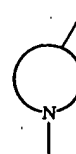
| | | | |
|----------------|--------|------------------|---------|
| 6,281,226 B1 | 8/2001 | Sanderson et al. | |
| RE39,128 E * | 6/2006 | Berry et al. | 514/305 |
| 7,169,804 B2 * | 1/2007 | Ascher et al. | 514/423 |



wherein

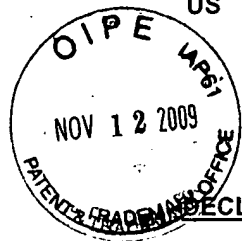
R₁ and R₁' are hydrogen or deuterium,
 R₂, R₃ and R₄ are hydrogen or deuterium,
 R₅ is the residue of an amino acid,
 X is S or N-ALK,

PCT/EP03/03215



is piperidinyl or tetrahydropyridinyl,
 ALK is (C₁₋₄)alkyl, and
 R₆ is hydrogen, hydroxy or (C₂₋₁₂)acyloxy,
 and their use as antimicrobials.

8 Claims, No Drawings

**DECLARATION AND POWER OF ATTORNEY FOR UNITED STATES PATENT APPLICATION**

☒ Original ☐ Supplemental ☐ Substitute

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name, and

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if more than one name is listed below) of the subject matter which is claimed and for which a United States patent is sought on the invention entitled

PLEUROMUTILIN DERIVATIVES AS ANTIMICROBIALS

the specification of which:

☐ is attached hereto.

☐ was filed on _____ as Application No. _____
(day/month/year)

and, if this box (☐) contains an *

☐ was amended on _____
(day/month/year)

(A)

☒ was filed as Patent Cooperation Treaty international Application No.

PCT/EP03/08059 on 23/07/2003
(day/month/year)

and, if this box (☐) contains an *

☐ entered the national stage in the United States and was accorded Application No.

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I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s) specifically referred to above and, if this application was filed as a Patent Cooperation Treaty international application, by any amendments made during the international stage (including any made under Patent Cooperation Treaty Rule 91, Article 19 and Article 34).

I acknowledge my duty to disclose information which is material to patentability as defined in 37 C.F.R. 1.56, including, for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or Patent Cooperation Treaty international filing date of the continuation-in-part application.

I hereby claim the benefit under 35 U.S.C. 119(a)-(d) or (f) or 365(b) of any foreign application(s) for patent, inventor's certificate or plant breeder's right certificate listed below and under 35 U.S.C. 365(a) of any Patent Cooperation Treaty international application(s) designating at least one country other than the United States listed below and have also listed below any foreign application(s) for patent, inventor's certificate or plant breeder's right certificate and Patent Cooperation Treaty international application(s) designating at least one country other than the United States for the same subject matter and having a filing date before that of the application the priority of which is claimed for that subject matter:

| COUNTRY/REGION (OR P.C.T.) | APPLICATION No. | FILING DATE (day/month/year) | PRIORITY CLAIMED | |
|-------------------------------|-----------------|---------------------------------|---|--|
| Great Britain | 0217149.4 | 24/07/2002 | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Great Britain | 0217305.2 | 25/07/2002 | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| PCT (EP) | PCT/EP03/03215 | 27/03/2003 | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Great Britain | 0207495.3 | 28/03/2002 | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| | | | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

I hereby claim the benefit under 35 U.S.C. 119(e) of any United States provisional application(s) listed below:

| APPLICATION NO. | FILING DATE (day/month/year) |
|-----------------|---------------------------------|
|-----------------|---------------------------------|

I hereby claim the benefit under 35 U.S.C. 120 of any United States application(s) listed below and under 35 U.S.C. 365(c) of any Patent Cooperation Treaty international application(s) designating the United States listed below:

| United States Application No. | United States Filing Date (day/month/year) | Status (Pending, Abandoned or U.S. Patent No.) | International Application No. and Filing Date (day/month/year) |
|----------------------------------|--|--|--|
|----------------------------------|--|--|--|

US Case ID/G-320 VADR 9920

I hereby appoint all of the registered practitioners associated with Customer No. 001095, respectively and individually, as my attorneys and agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

If this box (☐) contains an x ☒, I hereby authorize the registered practitioners associated with Customer No. 001095 and any others acting on my behalf to take any action relating to this application based on communications from Corporate Intellectual Property of Novartis International AG, Basle, Switzerland, or an affiliate thereof or a successor thereto, without direct communication from me.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

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or first joint inventor

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Inventor's signature

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Gabriele Kerber

Date

10.1.2005
(day/month/year)

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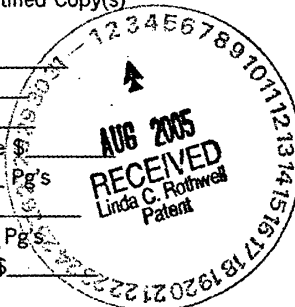
IMPORTANT: Before this declaration is signed, the patent application (the specification, the claims and this declaration) must be read and understood by each person signing it, and no changes may be made in the application after this declaration has been signed.

Case No. 18/G-32577A
Application No. 10/521,926
Mailing Date: July 22, 2005
Due Date: JC04 Rec'd PCT/PTO 22 JUL 2005
Express Mail No.: EV724615626US

The Patent & Trademark Office acknowledges, and has stamped
hereon the date of receipt of the items checked below:

- ☐ Amendment/Response/Letter - Fee \$ _____
☐ Appln. Filing Papers - Fee \$ _____
 ☐ PCT National Stage
 ☐ Provisional Application
 ☐ RCE ☐ DIV ☐ CONT ☐ CIP
 ☐ Specification _____ Pg's
☒ Executed/Unexecuted Decl. - Fee \$ 130.00
 ☐ Missing Parts/Missing Req.
☐ Preliminary Amendment _____ Pg's
☐ Claim of Priority ☐ Certified Copy(s)
☐ Amendment After Final
☐ Notice of Appeal - Fee \$ _____
☐ Appeal Brief - Fee \$ _____
☐ Issue Fee Payment \$ _____
☐ Assignment Rec. Req. - Fee \$ _____
☐ Formal Drawings _____ Pg's
☐ IDS _____ Pg's - Fee \$ _____
☐ PTO-1449 Form _____ Pg's
☐ Pet. for Ext. of Time - Fee \$ _____
☐ Application Data Sheet
☐ Seq. Listings _____ Pg's/Seq. Disk
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☐

JOT
Initials



A1

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
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PCT

(10) International Publication Number
WO 2004/011431 A1

(51) International Patent Classification⁷: C07D 211/54,
211/56, 211/58, 401/06, A61K 31/445, 31/45, A61P 31/04

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(21) International Application Number:
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(74) Agent: GRUBB, Philip; Novartis AG, Corporate Intel-
lectual Property, CH-4002 Basel (CH).

(22) International Filing Date: 23 July 2003 (23.07.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,
LT, LU, LV, MA, MD, MK, MN, MX, NI, NO, NZ, OM,
PG, PH, PL, PT, RO, RU, SC, SE, SG, SK, SY, TJ, TM,
TN, TR, TT, UA, US, UZ, VC, VN, YU, ZA, ZW.

(25) Filing Language: English

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(30) Priority Data:
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0217305.2 25 July 2002 (25.07.2002) GB
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(84) Designated States (*regional*): Eurasian patent (AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE,
BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

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(AT).

Published:
— with international search report

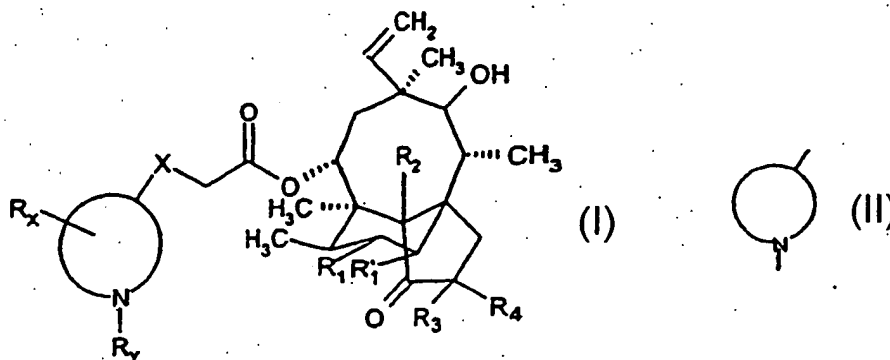
(72) Inventors; and

(75) Inventors/Applicants (*for US only*): BERNER, Heinz
[AT/AT]; Geyergasse 2a, A-1180 Wien (AT). KERBER,

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

B

(54) Title: PLEUROMUTILIN DERIVATIVES AS ANTIMICROBIALS



(57) Abstract: Compounds of formula (I), wherein R_1 and R_1' are hydrogen or deuterium, R_2 , R_3 and R_4 are hydrogen or deuterium, R_5 is the residue of an amino acid, X is S or N-ALK, formula (II), is piperidinyl or tetrahydropyridinyl, ALK is (C_{1-4}) alkyl, and R_6 is hydrogen, hydroxy or (C_{1-4}) acyloxy, and their use as antimicrobials.